

Henry J. Staudinger  
2218 Riverview Dr  
Toms Brook, VA 22660

Tel: 540-436-3491  
Fax: 540-436-3099  
E-Mail [hjs@shentel.net](mailto:hjs@shentel.net)

To: Biosolids Expert Panel Members  
From: Henry J. Staudinger, Citizens' Representative  
Re: Exclusion of Pollution Sensitive Sites from Consideration  
Date: December 3, 2007

Land applications of biosolids on pollution sensitive sites raise both health and environmental issues. Alan Rubin has confirmed that EPA left it to the states to identify and eliminate pollution sensitive sites when biosolids are land applied. As the Panel conducts the HJR No. 694 study, the following should be addressed:

1. Identification of pollution sensitive sites
2. Exclusion of biosolids on pollution sensitive sites
3. Identification of adequate buffers surrounding pollution sensitive sites

Exhibit A sets out representative pollution sensitive sites characteristics. Current biosolids permits restrict land applications on some pollution sensitive sites – including sites with slopes in excess of 15%, sinkholes, water wells, etc. Unfortunately, not all pollution sensitive sites have been addressed; and others have been addressed inadequately. Moreover, current restrictions are often not enforced. From the perspective of many citizens, each of these deficiencies raises important health and environmental issues.

There is special concern with the failure to establish protective aerosols buffers, especially for those with serious illnesses and those who became ill following forced exposure to biosolids aerosols. Applications on karst terrane (especially where sinkhole definitions are based on outdated science) and on slopes up to 15% when EPA risk assessment assumed a 6% maximum slope (especially where other pollution sensitive factors are present) are typical of deficiencies that need to be addressed.

Reviews of permitted sites have demonstrated numerous violations, often not addressed even when brought to the attention of regulatory agencies. As set forth in Exhibit B, 70% of the sites in that particular DEQ permit failed to meet even the inadequate 15% slope restriction. Failure to disclose that compliance often does not occur when regulatory agencies argue that land application is safe when applied in accordance with applicable regulations is particularly egregious.

I trust that this brief memo will be helpful to panel members and will result in better identification of pollution sensitive sites on which biosolids should not be applied as well as policies and practices that will ensure better compliance following transfer of the regulations to DEQ.

### Examples of Pollution Sensitive Site Characteristics

- Nutrients (failure to follow good recycling practices)
  - Sites with insufficient potassium
  - Sites that don't need P205 for crop growth
- Site conditions
  - High water table
  - High seasonal water table
  - Minimum depth to water
  - Frequent flooding sites
  - Slopes in excess of 6%
  - Rapid and very rapid runoff soils
  - Highly erodible soils
  - Rapid permeability soils
  - Slow permeability soils
  - High shrink swell soils
  - High pH soils
- Special areas
  - Karst Terrane
  - Wetlands
  - Sinkholes
  - Streams
  - Springs
  - Water wells
  - Sites with existing pollution problems resulting from other local conditions such as failing septic systems
- Health related site issues
  - Sites that expose individuals with special illnesses
  - Sites that expose those who have become ill following forced exposure
  - Sites that have other aerosol issues from other sources
  - Sites where large numbers of individuals can be forcibly exposed (near schools, hospitals, nursing homes, etc)
- Odor related issues

# Permitted Pollution Sensitive Sites

# Exhibit B

36 Sites	Acres	Unlawful Sites					Inappropriate Sites	
		a	b		c	d	e	
D1	12.80		*	X	*	*		X
F1A	16.90	*		X	*	**		X
F1B	7.40				*	*		X
F2A	2.80				*			X
H3A	10.50				*	*		X
H3B	15.30		*	X	*	**		X
H4A	8.80	*	*	X	*	**		X
H4B	33.00	*	*	X	*	**		X
H4C	65.30	*	*	X	*	*		X
HF1	4.60				*	**		X
HF3A	5.50	*	*	X	*	**		X
HF3B	5.20	*	*	X	*	**		X
L1	30.60					*	*	X
L10	16.70	*	*	X	*	**	*	X
L11	11.50				*	*		X
L11A	6.90				*	*		X
L12	5.50	*	*	X		**		X
L13	7.10						*	X
L2	24.00					*	*	X
L3	4.90						*	X
L4	13.30				*	*		X
L5	29.20	*	*	X	*	**		X
L7A	30.90	*		X	*	**		X
L7B	15.30				*		*	X
L8	16.50	*	*	X	*	*		X
L9	18.30	*	*	X	*	**		X
F2B	4.10	*		X	*	**		X
F2C	2.00	*		X	*	**		X
R1	9.70	*		X	*	**		X
R2	9.60	*		X	*	**		X
R3	19.30	*		X	*	**		X
W1A	17.10		*	X		*		X
W1B	16.20		*	X	*	*		X
W2	24.20		*	X	*	*		X
W3A	10.50		*	X		**		X
W3B	36.40	*	*	X	*	**		X

- a. Sites with slopes exceeding 15 percent according to Soil Survey
- b. Additional sites exceeding 15 percent based on overlay of Generator's Exhibits.
- c. Sites with High Erosion Potential according to the Soil Survey.
- d. Sites with "rapid" and/or "very rapid" runoff rates according to Soil Survey.
- e. Sites with potential flooding problems according to Soil Survey.